

80. The method of claim 79, wherein the non supercritical fluid is selected from the group consisting of ethanol, an aliphatic hydrocarbon, methanol, propyl alcohol, dicloromethane, dimethyl formamide, an ether, ethyl acetate, diethyl ether, chloroform, CH_2Cl_2 , hexane, heptane, octane, decane, dodecane, ammonium, a weak acid, a weak base, a ketone, a chloro derivative, a fluorinated hydrocarbon, an acetate and combinations thereof.
81. The method of claim 17, wherein the step of running at least one volatile substance through a packed column is performed at a pressure of 0 to 10 bar.
82. The method of claim 17, wherein the density of the column contents during the step of passing the extract through the packed column is increased by increasing the column back pressure.
83. The method of claim 17, wherein the temperature of the column contents during the step of passing the extract through the packed column is increased.
84. The method of claim 18, wherein the at least one volatile substance is a gradient of methanol in carbon dioxide.
85. The method of claim 18, wherein the at least one volatile substance comprises isopropyl amine, methanol or a combination thereof.
86. The method claim 19, wherein the packed column is an NH_2 column.
87. The method of 20 wherein the natural source is Kava root.
88. A method for separating analytes from a plant extract, the method comprising the steps of:
- passing at least one volatile substance through a packed column in a near-critical or supercritical fluid state;
 - passing the extract through the packed column; and
 - collecting the analytes that have been separated.
89. The method of claim 88, wherein the extract is prepared by grinding or crushing.
90. The method of claim 88, wherein the extract is prepared by crushing, macerating, or mixing an herb or plant with a solvent.
91. The method of claim 88, wherein the extract is exposed to at least one volatile substance in a near-critical or supercritical fluid state prior to passing the extract through the packed column.

92. The method of claim 88, wherein the extraction is carried out batch-wise, as a continuous-cascading extraction, or as a countercurrent-solvent extraction.
93. The method of claim 88, wherein the analytes are kavalactones and the plant is a kava plant.
94. A method for separating analytes from a plant, the method comprising the steps of:
loading an extraction vessel with raw material of the plant and at least one volatile substance and sealing;
increasing the pressure and temperature within the sealed vessel to form a supercritical condition for the volatile substance;
removing treated material from the sealed vessel and passing the treated material through a packed column; and
collecting the analytes that have been separated.
95. The method of claim 94, wherein the extraction is carried out as a batch extraction, continuous cascading extraction, a countercurrent solvent extraction, or a combination thereof.
96. The method of claim 95, wherein continuous cascading is carried out with multiple extraction vessels entered on-line in a continuous manner.
97. The method of claim 95, wherein countercurrent extraction is carried out with a series of countercurrent mechanical presses.
98. The method of claim 94, wherein the plant is Kava.--

REMARKS

Applicant has canceled claims 1-16 and 21-78, and added new claims 79-98. No additional fees are believed due for these new claims in view of applicant's cancellation of more than a corresponding number of existing claims.

Support for these new claims is found throughout the specification and existing claims. For example, the phrase "removal of analytes by a non supercritical fluid" in new claim 79 is supported by the specification such as on page 30 lines 21 to 22 ("After completing each supercritical fluid extraction, the trap was rinsed with 10 ml of 50/50% mixture of ethanol/CH₂Cl₂.") The phrase "ethanol, an aliphatic hydrocarbon, methanol, propyl alcohol, dichloromethane, dimethyl formamide, an ether, ethyl acetate, diethyl ether, chloroform, CH₂Cl₂, hexane, heptane, octane, decane, dodecane, ammonium, a weak acid, a weak base, a ketone, a